

- 24 -

Claims:

1. Seed of bentgrass plant designated ASR-368, having representative seed of said bentgrass plant having been deposited under ATCC Accession No. PTA-4816.
2. A bentgrass plant ASR-368 or parts thereof produced by growing the seed of claim 1.
- 5 3. The bentgrass plant ASR-368 or parts thereof of claim 2, comprising pollen, ovule, seed, roots, or leaves.
4. The bentgrass plant ASR-368 of claim 2 further comprising progeny thereof.
5. The bentgrass plant ASR-368 of claim 4, wherein the genome of said bentgrass plant or progeny thereof comprises a DNA molecule selected from the group consisting of SEQ ID  
10 NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.
6. The bentgrass plant ASR-368 of claim 5, wherein said bentgrass plant is tolerant to glyphosate.
7. The bentgrass plant ASR-368 of claim 5, wherein said DNA molecule is isolated from the genome of bentgrass plant ASR-368.
- 15 8. The bentgrass plant ASR-368 of claim 6 comprising a turfgrass stand.
9. The bentgrass plant ASR-368 of claim 8, wherein said turfgrass is used as a golf course.
10. The bentgrass plant ASR-368 of claim 9, wherein said golf course comprises greens, tees, or fairways.
11. A bentgrass plant or seed, the genome of which produces an amplicon diagnostic for  
20 bentgrass plant ASR-368 when tested in a DNA amplification method that produces said amplicon from DNA extracted from said bentgrass plant or seed, wherein said amplicon comprises SEQ ID NO:1 or SEQ ID NO:2.
12. The bentgrass plant or seed of claim 11, wherein said amplicon is produced with a DNA primer pair selected from the group consisting of SEQ ID NO:11 and SEQ ID NO:12, and SEQ  
25 ID NO:13 and SEQ ID NO:14.
13. A DNA detection kit specific for the detection of bentgrass event ASR-368 or its progeny genomic DNA in a sample comprising an isolated DNA primer molecule of at least 11 contiguous nucleotides of SEQ ID NO:3 or SEQ ID NO:4, or its complement thereof, wherein said DNA primer molecule when used in a DNA amplification method having bentgrass plant  
30 ASR-368 genomic DNA produces an amplicon comprising SEQ ID NO:1 or SEQ ID NO:2.

- 25 -

14. The DNA detection kit of claim 13 comprising an isolated DNA primer molecule selected from the group consisting of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13 and SEQ ID NO:14.

15. A DNA detection kit of claim 13, wherein the kit contains a DNA amplification detection  
5 method selected from the group consisting of staining, genetic bit analysis, pyrosequencing, fluorescence polarization, Taqman, and molecular beacon.

16. A method of detecting the presence of DNA corresponding to the bentgrass ASR-368 DNA in a sample, the method comprising:

- (a) extracting a DNA sample from a bentgrass ASR-368 plant or plant part; and
- 10 (b) contacting the DNA sample with a DNA primer pair; and
- (c) performing a nucleic acid amplification reaction, thereby producing an amplicon; and
- (d) detecting the amplicon,

wherein said amplicon comprises SEQ ID NO:1 or SEQ ID NO:2.

17. A method of detecting the presence of a DNA corresponding to bentgrass ASR-368 DNA  
15 in a sample, the method comprising:

- (a) extracting a DNA sample from a bentgrass ASR-368 plant or plant part; and
- (b) contacting the sample comprising DNA with a probe that hybridizes under stringent  
hybridization conditions with genomic DNA from bentgrass event ASR-368 and does  
not hybridize under the stringent hybridization conditions with a control bentgrass  
20 plant genomic DNA, wherein said probe is homologous or complementary to SEQ ID  
NO:1 or SEQ ID NO:2; and
- (c) subjecting the sample and probe to stringent hybridization conditions; and
- (d) detecting hybridization of the probe to the DNA.

18. A method of producing a plant that tolerates application of glyphosate herbicide  
25 comprising:

- (a) sexually crossing a first glyphosate tolerant bentgrass plant ASR-368 and a second  
parent bentgrass plant that lacks the tolerance to glyphosate herbicide, thereby  
producing a plurality of first progeny plants; and
- (b) selecting a first progeny plant that is tolerant to application of glyphosate; and

- 26 -

(c) selfing said first progeny plant, thereby producing a plurality of second progeny plants; and

(d) selecting from said second progeny plants, a glyphosate tolerant plant.

19. The method of claim 18 further comprising the step of backcrossing the first progeny  
5 plant that is glyphosate tolerant or the second progeny plant that is glyphosate tolerant to the second parent plant or a third parent plant, thereby producing a plant that tolerates the application of glyphosate.

20. A bentgrass plant comprising a glyphosate tolerant trait that is genetically linked to a complement of a marker polynucleic acid, wherein said marker polynucleic acid molecule is  
10 selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.